

ADULT FISH PASSAGE IMPROVEMENT -- WALLA WALLA RIVER 9601200

SHORT DESCRIPTION:

Provide for safe adult passage at several irrigation diversion dams in order to enhance summer steelhead and restore spring chinook runs in the Walla Walla River Basin.

SPONSOR/CONTRACTOR: CTUIR

Confederated Tribes of the Umatilla Indian Reservation
Gary James, Fisheries Program Manager
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541/276-4109

SUB-CONTRACTORS:

Montgomery Watson Engineering/Construction
Contractor(s)

GOALS

GENERAL:

Supports a healthy Columbia basin, Maintains biological diversity, Maintains genetic integrity, Increases run sizes or populations, Provides needed habitat protection

ANADROMOUS FISH:

Habitat or tributary passage

NPPC PROGRAM MEASURE:

7.10A

RELATION TO MEASURE:

Project directly relates to language: "Provide passage and protective screens on tributaries".

OTHER PLANNING DOCUMENTS:

Wy Kan Ush Me Wa Kush Wit, Walla Walla Subbasin Plan

TARGET STOCK

Walla Walla/Carson Spring Chinook
Walla Walla River Summer Steelhead

LIFE STAGE

Adult
Adult

MGMT CODE (see below)

E, S
S, W

AFFECTED STOCK

Bull Trout

BENEFIT OR DETRIMENT

Beneficial to intrabasin migration

BACKGROUND

Stream name:

Walla Walla and Touchet Rivers

Subbasin:

Walla Walla

Stream miles affected:

50 mi. above projects for increased adult access and utilization

HISTORY:

The native summer steelhead run in the Walla Walla River is currently in a severely depressed state and spring chinook are extinct due largely to inadequate conditions (poor screens, low flows, etc.) for downstream migration. The NE Oregon Hatchery project developed hatchery facility plans for enhancement of summer steelhead and re-establishment of spring chinook in the upper Walla Walla and Touchet Rivers. Implementation of the hatchery program will depend on improved adult passage conditions at irrigation dams in order for fish to access headwater spawning locations. The first two adult passage projects are scheduled for implementation in 1997. These will utilize 75% COE and 25% BPA funding for a new fish ladder at Nursery Bridge Dam and dam removal at Marie Dorian Dam.

BIOLOGICAL RESULTS ACHIEVED:

Only some design work completed at this time. Results expected upon completion of projects is improved upstream fish passage to natural production areas for summer steelhead and spring chinook.

PROJECT REPORTS AND PAPERS:

No project reports completed at this time. Engineering/design documents are being developed in 1997.

ADAPTIVE MANAGEMENT IMPLICATIONS:

Improved adult fish passage will compliment other projects (juvenile fish passage, habitat enhancement, artificial production) necessary for restoration of anadromous fisheries in the Walla Walla Basin. Monitoring and evaluation of fish passage effectiveness at completed facilities will provide useful information for any necessary adjustments at the Walla Walla River projects and possibly useful information for similar adult fish passage needs elsewhere in the Columbia River Basin.

PURPOSE AND METHODS**SPECIFIC MEASUREABLE OBJECTIVES:**

Partial summer steelhead and potential spring chinook barriers currently exist (total barriers at low flows) at the following diversion dams: Marie Dorian, Nursery Bridge, and Burlingame Dams on the Walla Walla River and Hofer and Maiden dams on the Touchet river. Measurable results will be improved adult fish passage to natural production areas.

CRITICAL UNCERTAINTIES:

A critically impacted life history stage currently effecting the survival of native summer steelhead and restoration of spring chinook is upstream migration of adults. Completion of this and other related projects (listed above) addressing additional life history stages will be necessary for implementation of a comprehensive Walla Walla Basin fish restoration program.

BIOLOGICAL NEED:

Without project, native summer steelhead would continue to be impacted and spring chinook restoration would likely be precluded. See "Project History" above for more information on biological need.

HYPOTHESIS TO BE TESTED:

N/A

ALTERNATIVE APPROACHES:

At least one of the irrigation diversion dams listed above will be removed. If the removal option is feasible elsewhere, it will be preferred over construction of new ladders if concerns such as irrigation needs and bank down-cutting can be adequately addressed.

JUSTIFICATION FOR PLANNING:

N/A

METHODS:

1) Conduct facility engineering and design. 2) Upgrade or construct new ladders or remove irrigation diversion dam which will provide adequate passage for adult salmon and steelhead. 3) Evaluate fish passage effectiveness by monitoring adult upstream migration.

PLANNED ACTIVITIES**SCHEDULE:**

<u>Planning Phase</u>	<u>Start</u> 1996	<u>End</u> 1997	<u>Subcontractor</u>
<u>Task</u> 1996 -Engineering and designs by COE on Nursery Bridge and Marie Dorian dams-Designs initiated by BPA funds for Hofer Maiden and Burlingame Dams 1997 - Complete engineering & designs for all other projects			

<u>Implementation Phase</u>	<u>Start</u> 1997	<u>End</u> 1998	<u>Subcontractor</u>
<u>Task</u> 1997 Construction of Nursery Bridge and Marie Dorian projects 1998 Complete construction of above projects (if necessary) and construct Hofer, Maiden, and Burlingame projects.			
<u>O&M Phase</u>	<u>Start</u> 1998	<u>End</u> ongoing	<u>Subcontractor</u>
<u>Task</u> Operate new fish passage projects and evaluate fish passage effectiveness and recommend passage facility improvements as necessary.			

PROJECT COMPLETION DATE:

Ongoing

OUTCOMES, MONITORING AND EVALUATION

SUMMARY OF EXPECTED OUTCOMES

Expected performance of target population or quality change in land area affected:

Biologists believe that inadequate ladders at irrigation diversion in the Walla Walla Basin can impede adult steelhead passage at a rate of up to 50% during moderate to low flow periods. Similar or worse problems are expected for spring chinook if ladders are not renovated or replaced. The contribution of the laddering projects by themselves will not provide for the total fish restoration goals (5,000 CHS and 11,000 STS) but when combined with other ongoing projects in the comprehensive Walla Walla Basin fisheries restoration program, attaining these goals is possible.

Present utilization and convservation potential of target population or area:

Present summer steelhead populations are 1,000 to 2,000 and spring chinook have been extinct for several decades.

Assumed historic status of utilization and conservation potential:

The Walla Walla Basin was believed to once support thousands upon thousands of both salmon and steelhead and the basin still has much pristine habitat in the headwaters.

Long term expected utilization and conservation potential for target population or habitat:

Walla Walla Basin anadromous fish restoration goals are 11,000 summer steelhead and 5,000 spring chinook.

Contribution toward long-term goal:

Completion of this and several other ongoing Walla Walla Basin fisheries restoration projects are expected to result in meeting the long term goals and provide for natural production harvest and broodstock collection.

Indirect biological or environmental changes:

N/A

Physical products:

Approximately 50 miles of upstream above partial barriers will be more accessible to salmon and steelhead.

Environmental attributes affected by the project:

N/A

Changes assumed or expected for affected environmental attributes:

N/A

Measure of attribute changes:

See G Above

Assessment of effects on project outcomes of critical uncertainty:

A comprehensive fish passage and natural production assessment is anticipated (similar to the Umatilla Basin program) following completion of several ongoing Walla Walla Basin fisheries restoration projects.

Information products:

Following implementation of fish passage improvements, the project will evaluate the fish passage effectiveness at the new projects.

Coordination outcomes:

The BPA, COE, an engineering firm, CTUIR, ODFW, WDFW and the Milton-Freewater Water Control District are currently all working well together to identify fish restoration needs, develop solutions and review designs. Good coordination is expected to continue during construction and M & E phases of the project.

MONITORING APPROACH

Objectives: 1) Conduct facility engineering and design. 2) Upgrade or construct new ladders or remove irrigation diversion dam which will provide adequate passage for adult salmon and steelhead. 3) Evaluate fish passage effectiveness by monitoring adult upstream migration.

Provisions to monitor population status or habitat quality:

A comprehensive fish passage and natural production assessment is anticipated (similar to the Umatilla Basin program) following completion of several ongoing Walla Walla Basin fisheries restoration projects.

Data analysis and evaluation:

A multi-agency research coordination committee (similar to the Umatilla Basin Program) is expected to later be formed to discuss project results/needs and implement necessary adaptive management actions.

Information feed back to management decisions:

See answer immediately above

Critical uncertainties affecting project's outcomes:

See the last three answers above

EVALUATION

Post-project success can be indicated by documenting uninhibited adult salmon and steelhead passage above the project sites.

Incorporating new information regarding uncertainties:

A multi-agency research coordination committee (similar to the Umatilla Basin Program) is expected to later be formed to discuss project results/needs and implement necessary adaptive management actions

Increasing public awareness of F&W activities:

Numerous agencies, irrigation districts, the watershed council, and many private landowners are already involved in the Walla Walla fisheries restoration program. Public awareness is expected to increase through continued coordination of these diverse groups, publication of project reports, local news coverage, etc. (similar to the successful program in the neighboring Umatilla Basin).

RELATIONSHIPS**RELATED BPA PROJECT****RELATIONSHIP**

9990069
 9990070
 9606400
 8805302 Juvenile Screens and Smolt Traps in Walla Walla Basin
 Walla Walla Basin Anadromous Fish Habitat Enhancement
 Walla Walla Co. (SWCD) Habitat Enhancement
 Northeast Oregon Hatchery - Walla Walla Component

All projects are part of a comprehensive Walla Walla Basin watershed/fisheries restoration program. They will compliment adult fish passage improvements by adding juvenile fish passage, habitat enhancement, and hatchery programs.

RELATED NON-BPA PROJECT

Walla Walla Basin Project - US BOR
 Walla Walla Basin Project - US Army COE

RELATIONSHIP

Develop/implement instream flow enhancement
 Assist with adult passage improvements and develop/implement flow enhancements

OPPORTUNITIES FOR COOPERATION:

This project represents a unique opportunity for multi-entity cooperation and cost sharing. The COE has already begun design work on a new Nursery Bridge Dam ladder and planning for Marie Dorian Dam removal. The COE will fund 75% and BPA will fund 25% of these projects in 1997.

Habitat enhancement projects in the Walla Walla River watershed are being planned, coordinated, and implemented by the Walla Walla Watershed Council, the Oregon Department of Fish and Wildlife, the Washington Dept. of Fisheries and Wildlife, the Confederated Tribes of the Umatilla Indian Reservation, and the three Soil and Water Conservation Districts in the Walla Walla Basin.

The US Army COE and the US Bureau of Reclamation in coordination with state and tribal fisheries managers are investigating opportunities to augment low instream in the Walla Walla River Basin.

BPA is funding construction of a hatchery facility on the South Fork Walla Walla. CTUIR will operate Phase I for Umatilla Basin adult spring chinook spawning and holding beginning in 1997. Phase II will provide for summer steelhead and spring chinook production for the Walla Walla Basin and is expected to be implemented in 1999.

The adult and juvenile passage projects will be complimented by implementation of these other projects, which all together will constitute a comprehensive Walla Walla Basin fish restoration program.

COSTS AND FTE

1997 Planned: \$350,000

FUTURE FUNDING NEEDS:

<u>FY</u>	<u>\$ NEED</u>	<u>% PLAN</u>	<u>% IMPLEMENT</u>	<u>% O AND M</u>
1998	\$1,520,000	5%	95%	
1999	\$150,000			100%
2000	\$150,000			100%
2001	\$150,000			100%
2002	\$150,000			100%

PAST OBLIGATIONS (incl. 1997 if done):

<u>FY</u>	<u>OBLIGATED</u>
1996	\$190,114
TOTAL:	\$190,114

Note: Data are past obligations, or amounts committed by year, not amounts billed. Does not include data for related projects.

LONGER TERM COSTS: Expected annual cost of \$150,000
 For annual operation and maintenance

1997 OVERHEAD PERCENT: 34%

HOW DOES PERCENTAGE APPLY TO DIRECT COSTS:

The 34% is not expected to be applied to at least 90% of project costs in 1998 due to the primary activity being construction.

CONTRACTOR FTE: About 0.25 FTE

SUBCONTRACTOR FTE: Several? - Exact number unknown at this time because project designs are ongoing.
